

at Bandra, Bombay, at about 8 a.m. on 13 September 1963. It was discovered just as our cat had pinned it against a glass window in the verandah facing west. This species visits the neighbourhood of Bombay as far north as Suriamal, Wada, Thana District, during the monsoon and breeds among the forested hills. It is well known as a wanderer and has often flown into houses—the other two specimens from Bombay were apparently similarly obtained, being marked 'Govt. Dockyard, 18th June 1902' and 'Caught in Bombay. Purchased, 3rd October 1910'.

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75, ABDUL REHMAN STREET,

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5. NOTES ON INDIAN BIRDS 2—RACES OF *STERNA ALBIFRONS* PALLAS, IN INDIA AND PAKISTAN

(With a text-figure)

ABSTRACT

Ripley's account of the races of *Sterna albifrons* Pallas in a SYNOPSIS OF THE BIRDS OF INDIA AND PAKISTAN (1961) differs from that of Stuart Baker in the FAUNA (1929, 6). The material and literature available in Bombay indicate that typical *albifrons* breeds along the Persian Gulf to Bhavnagar in Gujarat, and apparently also on the Brahmaputra and the rivers in the Indus basin; *saundersi* has been obtained in Ceylon and the Maldives, but there is no evidence of its nesting anywhere except around Karachi, Pakistan; *sinensis* breeds along the coast from China, through Malaya and Ceylon, as far north as Bombay; *pusilla* is indeterminate.

Stuart Baker in the FAUNA (1929, 6 : 134) accepted 5 races of the Little Tern *Sterna albifrons* Pallas from Indian limits: *albifrons* Pallas (Holland), *sinensis* Gmelin (China), *pusilla* Temminck (Java), *praetermissa* Stuart Baker (Mesopotamia), and *saundersi* Hume (Karachi). Ticehurst (*J. Bombay nat. Hist. Soc.* 34 : 484) merged *praetermissa* with *albifrons* and removed *pusilla* as insufficiently described. Earlier (*Ibis* 1924 : 142) he had merged Hume's *gouldi* (which name incidentally is preoccupied by *gouldi* Reichenbach) with *albifrons*, the form nesting on the rivers of north-west India. Hume (*Stray Feathers* 9 : 131) found *gouldi* nesting at Goalundo on the Brahmaputra.

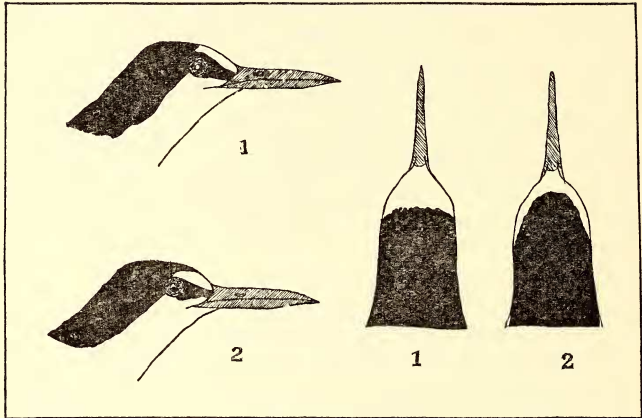
In 1961, R. S. Dharmakumarsinhji sent to the Bombay Natural History Society the skin of a Little Tern (*Sterna albifrons* Pallas) shot off eggs at Bhavnagar, Saurashtra. An attempt to determine its race by an examination of the skins and literature available in Bombay showed considerable disparity with the position in Ripley's recent A SYNOPSIS OF THE BIRDS OF INDIA AND PAKISTAN and I sent 6 skins to the Berlin Museum for identification. In his reply, Dr. G. Mauersberger stressed the importance of the colour of the shafts of the first three primaries, and the simplicity of the character and the fact that it is constant in non-breeding birds and flying young in juvenile plumage prompted me to attempt a reassessment of the races occurring in India. Additional diagnostic characters are mentioned in the key below and are illustrated by a sketch kindly drawn for me by Miss Elizabeth Reuben. The key is followed by notes on the known distribution of the three races:

- (a) Shafts of first three primaries dark brown to brownish white. Legs and feet orange-yellow or yellow. Black of head tapers to a point in front, white of forehead touches the eyes. Upper plumage darker than in other two races. ... *albifrons*
- (b) Shafts of first three primaries shining white. (Legs and feet and head as in *albifrons*) ... *sinensis*
- (c) Shafts of first three primaries black (not brown). Grey of upper plumage much lighter than in other two, being most noticeable in two adults obtained on 28-7-1962. Paleness of secondaries sets off and accentuates black in primaries. White of forehead does not reach the eyes. Black on top of head does not taper to a point but has straight edge across forehead. Legs and feet dusky yellowish olive (paler behind and below). According to Stuart Baker (NIDIFICATION 4 : 381) eggs quite distinct from those of the other races. ... *saundersi*

***Sterna a. albifrons* Pallas** The Little Tern.

Ripley (loc. cit.) records the Little Tern as breeding along the Mekran Coast, on a rocky islet off Salsette, Bombay, and at Masulipatam, Andhra. The two latter records are incorrect. The former is based on a nesting colony near Bombay recorded by me in 1939 as of *albifrons* on the strength of an identification by the late Mr. Hugh

Whistler. This seems to have been an unfortunate slip, for the 10 specimens available for examination in Bombay are definitely not *albifrons* and agree with *sinensis*. In the record from Masulipatam there appears to be another slip—Whistler (*J. Bombay nat. Hist. Soc.*



Markings on head of: 1. *Sterna albifrons saundersi*; 2. *S. a. albifrons* and *S. a. sinensis*

39 : 249) specifically stated that he had not had the opportunity of examining specimens and was uncertain of the race, as also of Ferguson's specimen from North Travancore which is recorded as *saundersi* by Sálím Ali (*J. Bombay nat. Hist. Soc.* 39 : 580), but marked with a query in his subsequent (1953) *THE BIRDS OF TRAVANCORE AND COCHIN*, p. 374.

Ticehurst accepted *albifrons* as the breeding bird in the Persian Gulf and in north-west India, and the Bombay collections include specimens from Mesopotamia (breeding); Kandla, Kutch, (2), 11th September 1943; Salaya, Gulf of Kutch, 6th August 1963; Bhavnagar (breeding), 1st June 1961; Mira Road, Salsette, 6th July 1962; Bombay Harbour, 10th April 1963; and Rewas on mainland opposite Bombay (7, all in non-breeding plumage with dark bills and brown feathers on the shoulders), 27th December 1962. K. S. Shivbhadrasinhji of Bhavnagar found c/3, c/3, and c/2 on Gourishankar Lake, Bhavnagar, in June 1959 (R. S. Dharmakumarsinhji *in epist.*). It is interesting that, with the record from Bhavnagar, the breeding territory of this race

encircles Karachi, the only place where *saundersi* is definitely known to breed.

In the Indian Museum at Calcutta, I saw (March 1964) two old water-damaged specimens from Khan-i-al, Turkestan, and Khwaja Ahmed, Seistan, with the brownish quill shafts of this form.

Sterna a. sinensis Gmelin The Whiteshafted Little Tern.

This race is omitted from Ripley's SYNOPSIS. I have already referred to the nesting colony near Bombay, wrongly recorded as *albifrons*. A visit on 23rd May 1948 showed an active colony of about a hundred nests. On 22nd May 1952, only 3 pairs were seen, together with several drums of 'wash' and a large number of eggshells near the distilling fire-place to tell the tale! Pairs and small parties have been seen at Versova (1st April 1962), Chowpatty (April-May 1962), and Mahim Creek (8th July 1963), but there is no means of being certain of the subspecies. On 25th April 1963, I flew over the island at a height of about 500 ft. and could see no terns at all. The whole island appeared to have been flooded at high tide.

The 10 specimens available, all from the neighbourhood of Bombay, taken between 25th April and 6th September, and all in breeding plumage, have yellow bills with small black tips. The nesting birds of Ceylon and Malaya are now accepted as of this race. Dr. Mauersberger, who examined two specimens from Bombay, thought they were lighter above than the average *albifrons*, though a little darker and less bluish than the true *sinensis*. The latter he opined may be due to staining by blood and fat. In series, they are paler than *albifrons*. In the breeding plumage the bill is yellow with a black tip which is smaller than in *saundersi*. In non-breeding plumage (September), the bills are horny-tipped and not yellow at the base. Dr. Dillon Ripley informs me that he has a non-breeding male taken on the Sankos River in the Eastern Duars in April (Wing 159; Tail 66.5).

Six males from Bombay have wings 168-180 (av. 175) and tails 65-93 (av. 81.6). Dr. Charles Vaurie informs me (*in epist.*) that 10 males of *sinensis* at the American Museum of Natural History, New York, have a wing length of 182-192 (185.5) and outer tail feathers of 95-140 (109). The Indian birds appear to be smaller, but Dr. Mauersberger informs me that 12 skins from China available to him measure 170-187 while individuals from Japan and Luzon are smaller, 164 and 166 mm. Larger series appear necessary to determine if there is any geographic variation in the wide range of this race extending from Japan to Bombay.

Sterna a. saundersi Hume. The Blackshafted Little Tern.

The black (not brown) shafts of the primaries are distinctive. The grey of the upper parts is much lighter than in *albifrons* and *sinensis*, being most noticeable in two adults obtained on 28th July 1962.

Ripley (loc. cit.) notes it as breeding along the coast of West Pakistan as far east as Karachi, and on Karativu Island, north-west of Ceylon. Hume described this from Karachi and referred specimens from the Laccadives, Ceylon, Madras, as well as a nestling from Phillor on the Sutlej, to this race! Ticehurst & Cheesman (*Ibis* 1925: 29) referred to a pair and a single bird secured at Bahrain Island, and another caught exhausted off the Hadhramaut Coast on 8th May 1923. They suggest that this race breeds at the southern end of the Persian Gulf, the breeding bird at the northern end being *albifrons*.

Ticehurst (*Ibis* 1924: 143) states that it appears in Karachi about the first week in April and disappears by the beginning of September. The specimens available are from Karachi (breeding), 16th April and 9th July; Salt Works, Kandla, Kutch, 6th and 9th May (2), 16th July; Pirotan Island, Gulf of Kutch, 28th July 1962 (3). One bird marked *saundersi* by Ticehurst (Karachi 15th April 1918) has the black forehead and the first primary shaft as in *albifrons* and is no doubt of the latter race.

Phillips in A REVISED (1952) CHECKLIST OF THE BIRDS OF CEYLON, also quoted by Ripley, refers to 3 specimens obtained on Karativu Island, but does not say that they are from a nesting colony. Again he refers to three specimens (*J. Bombay nat. Hist. Soc.* 55: 221) shot in the Maldives in January and adds 'resident' as it was 'reported to breed'. This race, as also the others, travel long distances in the non-breeding season, but there appears to be no definite evidence of its nesting anywhere except around Karachi. Bulkley's record from Kharaghoda (*J. Bombay nat. Hist. Soc.* 8: 325) is quoted as of this race, but it may be well to check upon its correctness. It is curious that there is no record of this race south of the Gulf of Kutch, i.e. on passage to Ceylon.

Hartert & Steinbacher (1932) have drawn attention to several instances of misidentification of *albifrons* as *saundersi* in African limits, and it is necessary to examine the records more carefully. If the breeding records from Ceylon are confirmed, it will be necessary to separate this as a species as already suggested by Stuart Baker (NIDIFICATION 4: 381) and Hartert & Steinbacher (loc. cit.).

Ticehurst stresses the fact that *saundersi* is a salt-water bird and its colonies are scattered over a fairly large area, so that each nest is some distance—twenty to a hundred yards—from the next. The

nests of *sinensis* near Bombay were only a few feet apart. Ticehurst also said that as soon as one reached the Indus the Little Tern (*albifrons*) was the nesting form, which never breeds on maritime shores. This is not correct, for in Europe and North Africa *albifrons* is known to nest on the seashore.

In India, *sinensis* has only been recorded as nesting near the sea but La Touche (HANDBOOK OF THE BIRDS OF EASTERN CHINA 2 : 330) refers to clutches of 2 and 3 along the coast and on river banks. In the non-breeding season of course, all three may be found over salt water.

***Sterna a. pusilla* Temminck.**

Ripley (loc. cit.) has accepted this as the river-breeding tern in India, but I have already referred to Ticehurst's earlier opinion based on (1) absence of specimens, (2) insufficient description, and (3) type locality being in Java where *sinensis* is now accepted as the breeding form, and agree with Ticehurst that it would be best to drop this name.

Stuart Baker's key for the identification (loc. cit. p. 134) of the five races mentioned by him divides them into two groups, one (*albifrons* and *sinensis*) with 'bill larger, culmen 28-34 mm., much stouter' and the other (*praetermissa*, *pusilla*, and *saundersi*) with 'bill smaller, culmen 26-32 mm., much more slender'. Birds of the year appear to have smaller dark-coloured bills as compared with the yellow bills of birds in breeding plumage and I have been unable to associate these differences with any of the races.

ACKNOWLEDGEMENTS

This note is based on an examination of some 40 skins which include 15 in the collections of St. Xavier's High School, Bombay. I am grateful to the school authorities for having permitted their examination and also for presenting 4 skins to the Society. Dr. Sálím Ali very kindly let me have a translation of relevant portions from Hartert & Steinbacher, which has been useful in completing some parts of this note. Drs. G. Mauersberger and Dillon Ripley kindly read over the draft note and I am grateful for their suggestions.

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